REMARKS

Applicant wish to thank the Examiner for his consideration of Applicant's previous submitted arguments, the Examiner's withdrawal of his previous claim rejections, and the Examiner's Interview conducted on April 15, 2008. It is believed that agreement was reached concerning claim amendments to overcome the prior art cited in the Office Action, and such amendments are reflected in the claim listing below. Applicant submits herewith a Request for Continuing Examination. Claims 1-24 are pending. Claims 1-24 are rejected. Independent claims 1, 7, 13, and 19 have been amended. Claims 1-24 remain pending examination and allowance.

Independent claims 1, 7, 13, and 19 have been amended to more particularly point out and distinctly claim the subject matter of the embodiments of Applicant's invention. The independent claims have been amended to more clearly point out that the radio frequency downconverter first input is based on a transmitted signal of a half-duplex radio transceiver, the power of this signal being the object of the radio transmission power control circuit. Support for this amendment is found in Fig. 2 (directional coupler 14 providing input to power detect downconverter 24); and in the specification at page 6, lines 5-7. The independent claims have also been amended to more clearly point out that the power signal produced by the receiver baseband circuit while the half-duplex radio transceiver is transmitting is representative of the *power* of the transceiver transmitted signal. Support for this amendment is found in Fig. 2 (ADC 27 provides input to RMS functional block); Fig. 3 (output of ADC 27 is a received signal strength indicator signal rssi); and page 9, lines 6-8. The independent claims have further been amended to more clearly point out that the power reference signal is representative of the desired power of the transceiver transmitted signal. Support for this amendment is found in the specification at page 9, lines 4-9; and page 10, lines 13-14. The independent claims have further been amended to include punctuation to more clearly separate the adverbial phrases from the verb phrases. In particular, to more clearly point out that while the transceiver is receiving, the receiver baseband circuit is operating to process the received signal, and while the transceiver is transmitting, the receiver baseband circuit is operating to produce a power signal.

35 U.S.C. § 102

Claims 1, 3, 7, 9, 13, 15, 19, and 21 are rejected under 35 U.S.C. § 102(b) as being anticipated by Kim et al. (US 5,710,981).

The invention of Applicant is directed generally to systems and methods for accurate control of radio transmitter power. Embodiments of Applicant's invention utilize the receiver base-band circuit of a half-duplex transceiver while the transceiver is transmitting, the receiver circuit normally being idle while the transceiver is transmitting, to process a directional coupler output off of the antenna feed while the antenna is transmitting and to generate a transmission power signal. Use of the receiver circuit for power signal processing during a period when the circuit would normally be idle provides accurate power level control at lower cost.

Several required elements of Applicant's independent claims 1, 7, 13, and 19 are not taught or suggested by Kim. In particular, at least four elements of the independent claims are not taught or suggested by Kim:

(1) a radio frequency downconverter in a transceiver having as an input a transmitted signal of the transceiver;

(2) using the receiver baseband circuit, while the transceiver is transmitting, to process the downconverter output;

(3) processing the downconverter output to produce a power signal representative of the power of the transmitted signal; and

(4) a feedback control circuit that produces a transmitter gain control signal.

Kim does not teach a radio frequency downconverter in a transceiver having as inputs a transmitted signal and local oscillator signal of the transceiver. Kim discloses a transceiver that includes a downconverter (46), but the downconverter input is based on a *received* signal. Fig. 2; col. 5, lines 41-49. In contrast, the embodiments of Applicant's claims 1, 7, 13, and 19 require that an input to the radio frequency downconverter is based on the transmitted signal of the transceiver, the power of this signal being the object of the radio transmission power control circuit.

Kim does not teach using the receiver baseband circuit, while the transceiver is transmitting, to process the downconverter output. Kim teaches a separate transmitter power controller circuit 30 that processes the downconverter 46 output. See, e.g., Fig. 2; col. 4, lines

53-63; col. 6, lines 1-15. In particular, transmitter power controller circuit 30 is not part of the receiver circuit 12. See Fig. 2. In contrast, the embodiments of Applicant's claims 1, 7, 13, and 19 require that a receiver baseband circuit of the half-duplex radio transceiver, when the half-duplex radio transceiver is transmitting, process the downconverter output. As is shown in Fig. 2 of the application, at least baseband filter 25, baseband VGA 26, and ADC 27 of a receiver baseband circuit of the transceiver are used to process the output of downconverter 24.

Kim does not teach or suggest processing the downconverter output to produce a power signal representative of the power of the transmitted signal. Kim describes a system in which a measure of the *signal quality of the received signal* is produced. In Kim, the output of downconverter 46 is processed, stored in sampler and buffer 56, then provided to signal adjustment circuit 36. Col. 5, lines 46-55. Signal adjustment circuit 36 then determines the signal quality of the transmitted signal sample through an iterative degrading process. See flowchart on Fig. 3. The output of this process is an adjustment parameter that is related to the signal quality of the transmitted signal. See Fig. 3, steps 108, 110. In contrast, the embodiments of Applicant's claims 1, 7, 13, and 19 require that the downconverter output is processed to produce a power signal representative of the *power of the transmitted signal.*

Kim does not teach or suggest "a feedback control circuit that produces a transmitter gain control signal to control the transmitted signal power so as to minimize the difference between the power signal and a power reference signal representative of the desired power of the transmitted signal." Kim does not disclose a feedback control circuit. In Kim, characteristics of a *received* signal are determined (in this case signal quality), and then, based on the determined characteristics, the power of the *transmitted* signal is simply set to a value via power amplifier 70. Col. 3, lines 16-21, 45-53; Fig. 2. The transmitted signal power is never measured and never appears as a factor in the determination of transmitted signal power; it only appears as the output of the determination. One definition of "feedback circuit" is "A circuit that returns a portion of the output signal of an electronic circuit or control system to the input of the circuit or system." McGraw-Hill Dictionary of Scientific and Technical Terms 783 (6th ed. 2003). From this definition, it is clear that Kim does not disclose a feedback control circuit because no portion of the transmitted signal power is input back to the circuit. In contrast, the embodiments of Applicant's claims 1, 7, 13, and 19 require a feedback control circuit to control the transmitted

signal power that minimizes the difference between the power signal and a power reference signal. In Applicant's invention, the power of the transmitted signal is controlled in part based on the power signal, which is representative of the power of the transmitted signal. Thus, this is a feedback control circuit.

Because Kim does not teach nor suggest all of the elements of Applicant's claims 1, 7, 13, and 19, the embodiments of independent claims 1, 7, 13, and 19 are not anticipated by Kim, and these rejections are overcome. Applicant believes that claims 1, 7, 13, and 19 are in condition for allowance.

Regarding dependent claims 3, 9, 15, and 21, which depend from independent claims 1, 7, 13, and 19, respectively, Applicant submits that these claims are allowable at least for the reasons cited above that claims 1, 7, 13, and 19 are allowable. However, Applicant further argues that these claims distinguish over Kim in their own right.

Because Kim does not disclose producing a "power signal," as that term is defined by Applicant and which is required by claims 3, 9, 15, and 21, Kim cannot anticipate the embodiments of Applicant's claims 3, 9, 15, and 21. The "power signal" is a signal produced by the receiver baseband circuit while the half-duplex radio transceiver is transmitting, and is representative of the power of the transceiver transmitted signal. See Fig. 2 (ADC 27 provides input to RMS functional block); Fig. 3 (output of ADC 27 is a received signal strength indicator signal rssi); and page 9, lines 6-8. The power signal is then used by the feedback control circuit to control the transmitted signal power. As argued above, Kim never measures the transmitted signal power, and thus cannot produce a "power signal" representative of the power of the transceiver transmitted signal. Thus, Kim does not disclose all elements of claims 3, 9, 15, and 21.

Because Kim does not teach nor suggest all the elements of Applicant's claims 3, 9, 15, and 21, Applicant believes that the embodiments of claims 3, 9, 15, and 21 are not anticipated by Kim, and these rejections are overcome. Applicant believes that claims 3, 9, 15, and 2 are in condition for allowance.

35 U.S.C. 103(a)

Dependent claims 2, 4, 8, 10, 14, 16, 20, and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim, in view of Khan et al. (US 5,959,499). Dependent claims 5-6, 11-12, 17-18, and 23-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim, in view of Khan, and further in view of Haartseen (US 2005/0048985). Applicant submits that the rejections of these dependent claims are moot, and these claims are allowable at least for the reasons cited above that independent claims 1, 7, 13, and 19 are allowable.

Conclusion

It is submitted that all the pending claims are now in a condition for allowance. Reconsideration of the application and issuance of a notice of allowance are respectfully requested. It is believed that no extension of time is required for this matter, but Applicant hereby petitions for and requests that any extension or other fee required for timely consideration of this application be charged to Deposit Account No. 19-4972. The Examiner is requested to telephone the undersigned if any matters remain outstanding so that they may be resolved expeditiously.

Respectfully submitted,

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